



Coastlines

Editorial



Cushla Loomb – Editor

This edition of Coastlines highlights the skills in Environmental Impact Assessments (EIA) and management work that the Beca Ports and Coastal team is applying throughout the Pacific. In particular, the experience gained from extensive EIA work in Fiji, the assistance with planning and engineering for a reclamation of the coast in the Marshall Islands and the development of an Environmental Management Plan as part of airport rehabilitation work, also in the Marshall Islands. In addition, we profile Tessa Irving from our Civil engineering team and provide an update on two previously featured projects.

As our team further develop our market beyond New Zealand, our use of broad ranging skills (across all of our offices) and an adaptive integrated approach to projects is helping meet

the changing needs of clients. Many Pacific Island countries have now adopted a more stringent approach toward coastal developments and Environmental Impact Assessments (or EIAs) are increasingly required.

Beca understands the importance of undertaking EIAs early, as part of project planning, and of adopting an integrated approach in order to avoid possible rework of final engineering design. The benefits that an integrated approach to project planning offers (involving Beca people from disciplines including planning, environmental, civil and structural engineering) have been realised through Beca's work in New Zealand and internationally.

We hope you enjoy this edition of Coastlines and, as always, we welcome your comments.

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Tessa Irving



Majuro Airport, Republic of the Marshall Islands (see inside)

Making an impact in the Pacific

A history of Environmental Impact Assessments for projects in the Pacific Islands.



Beca has amassed a body of experience in preparing Environmental Impact Assessments (EIAs) in the Pacific Islands over the last ten years. An important component in this work is trying to understand the particular needs of the individual countries of the Pacific. Close relationships with local companies, governments and villages are crucial, especially for specific technical assessments and consultation in local dialects. "The Beca approach is based on a sound understanding of legislation, regulatory processes, and project management best practice in the Pacific," says Associate Planner Lucy Brake. "We can assist clients by providing an explanation of the risks and benefits of taking various approval path options."

Beca has built strong contacts and relationships with government and council staff, and has developed an understanding of what councils are expecting; advice given makes sure that no time is lost. These associations help engender a good understanding of the different regulatory and political environments in the Pacific Islands.

"Beca also has experience in the preparation of scoping reports outlining development potential, undertaking environmental due diligence investigations (with regard to development opportunities) and peer review of EIAs. A number of key Beca staff are registered as EIA Team Leaders and Technical Specialists with the Fiji Government's Ministry of Environment," adds Lucy.

Case Study: Rokobili Port, Fiji

Beca recently completed an EIA for Rokobili Port in Suva. Fiji Port Corporation Ltd (FPCL) plans to expand the Port of Suva's main facilities at King's Wharf by building a new facility at Rokobili, which covers approximately 50 hectares in Fiji's capital city. Beca and Erasito Consultants Ltd combined to prepare an EIA for this proposal. The document describes demand for the project, the proposed project in detail and reviews potential environmental impacts and effects. Local consultants were employed to prepare technical assessments, such as ecological and visual. Open days and village meetings were held for the local community to talk to the project team, and find out more about this significant project. Mitigation measures to reduce the potential impacts were developed in consultation with the community.

Case Study: Pago Pago Port Rehabilitation, Fiji

Beca was commissioned to investigate the rehabilitation of deteriorating wharf structures and dredging of accumulated sediments at Pago Pago port by the American Samoa Government. An EIA and an Environmental Management Plan were prepared. As part of the assessment of issues and options for sediment dredging and disposal, Beca conducted an environmental investigation of the marine sediments. Recommendations regarding the environmental aspects of the debris removal and berthage recontouring were also made.

For more information, contact: Lucy Brake
 Email: lucy.brake@beca.com
 Telephone: +64 7 577 1123



Local consultation



Pago Pago Port Rehabilitation

Reclaiming the bay for education

Finding land for a new school on a small coral atoll isn't easy, so when Uliga Elementary School in the Republic of the Marshall Islands was closed down by the local environmental agency, reclaiming land to rebuild it on was the only option. Once the reclamation concept was approved, Beca Engineer Tony Tomlinson saw an opportunity to provide another public asset the local community was lacking: recreation space. Public support for rebuilding the school and providing playing space for the young population was high and the Uliga Elementary Consortium was created to oversee the reclamation.

Beca's Tessa Irving, Cushla Loomb and Hugh Leersnyder visited Majuro in January and could immediately see the need for the project. The previous school was located next to the main oil storage tanks on the island and could only accommodate half the students in one session. Baseball was being played on any available piece of land causing a hazard to local residents and traffic.

"Previous reclamations in Uliga had partially joined two islands together, leaving a large man-made bay with insufficient flushing capacity that had been turned into an unofficial rubbish dump," says Tessa. "The Beca design team were advised by local specialists that reclaiming this bay would reduce a health hazard to local residents.

We were pleased to report that while reclamations are sometimes perceived to have negative effects

on the coastline, by filling in this artificial bay there is an opportunity to improve water quality along the coast."

Being located 6 feet above sea level provides many challenges for the Marshall Islands. Severe tropical storms, while not frequent, are devastating. Obtaining fill material for a large reclamation such as this is also difficult as the majority of available sand in Majuro is under 15 metres of water in the lagoon.

Beca is providing design services for the reclamation and has supplied environmental permitting advice during the project's planning phase.

For more information, contact: Tessa Irving

Email: tessa.irving@beca.com

Telephone: +64 9 308 4573



Uliga Elementary School

Republic of the Marshall Islands school gets a new lease of life on a reclaimed piece of land.

Sustaining infrastructure

Majuro International Airport plays a pivotal role in the economic and social wellbeing of the Republic of the Marshall Islands. It is a principal domestic link and the sole air link between Majuro (the capital's commercial centre) Hawaii to the east and Guam to the west.

Following success on an earlier runway overlay project, Beca was engaged by the Republic of the Marshall Islands Port Authority to upgrade the airport's apron. The pavement is aged, brittle and in need of resurfacing, having been in use for over 30 years. There is a need to reconfigure the apron to improve the servicing and refuelling of aircraft. Surface ponding on the apron and an aged storm water system constrain the site during periods of heavy rain.

"To help make sure the rehabilitation work is carried out in a sustainable manner, and complies with the Environmental Protection Authority's (EPA) requirements, Beca prepared an Environmental

Management Plan (EMP)," says Senior Environmental Scientist Hugh Leersnyder.

"Works include establishing temporary asphalt and concrete plants, and the repaving earthworks. The storm water reticulation is to be upgraded, including installation of storm water treatment devices."

The EMP identified sensitive areas that could be affected by construction and post construction phases of the project. These included the sensitive coral lagoon, the town water supply catchment (a role for the airport runway!) and local communities.

Hugh continues: "We identified mitigation measures in the EMP to protect the community, air, water and adjacent coastal environment. The EMP has been approved by the EPA and is incorporated into the construction contract."

For more information, contact: Hugh Leersnyder

Email: hugh.leersnyder@beca.com

Telephone: +64 9 336 5909

Environmental Management Plan helps make sure airport rehabilitation work is carried out in a sustainable manner.



Majuro International Airport from the air

Updates

New Plymouth Coastal Strategy

"A visionary future"
(featured in *Coastlines* – Issue 10, Oct 2005)

Client: New Plymouth District Council (NPDC)

Location: Taranaki, New Zealand

Current status: The New Plymouth District Council has now adopted The New Plymouth Coastal Strategy. A Mana Whenua Mana Moana Paper – Tangata Whenua Strategy was developed by the Mana Whenua Reference Group (a group established to respond to the New Plymouth Coastal Strategy). The group requested Namouta Poutasi, from Beca's Planning Team, to act as their planning advisor. The strategy has successfully blended oral history and contemporary planning. As a result New Plymouth District Council and Beca have been awarded the New Zealand Planning Institute 2007 Award of Merit for developing the paper.



Bua Integrated Port

"Fiji plans a new port"
(featured in *Coastlines* – Issue 9, Dec 2004)

Client: Fiji Ministry of Fisheries and Forests

Location: Wairiki, Vanua Levu, Fiji

Current status: The Bua Port Development Environmental Impact Assessment (EIA) has been approved by the Ministry for the Environment in Fiji and construction has begun. Part of the EIA included requirements for an Erosion Sediment Control Plan and water quality monitoring which has also been implemented.



Tessa Irving – Civil Engineer



How long have you been in this profession?
I've been working as a Civil Engineer for three years.

How much of that time has been with Beca?
All of it – I started as a summer student and never left!

Why did you choose this profession?
Engineering gives you good opportunities to work outdoors, to travel with work and to create things that are actually useful!

What do you enjoy most about what you do?
The variety of the work – one day you're in the office, the next you're at the beach (working of course!) and the day after you're presenting your design to the client or stakeholders.

Do you have a favourite project?
At the moment it would have to be the Uliga Reclamation in the Marshall Islands – it's my first

international job and it has a big 'feel-good' factor because we're providing land so the local kids can have a school to go to.

What's the best thing about working for Beca?
I like working for a big company – whenever you have a question, there's always someone who knows the answer.

What's your favourite coastal location?
Onemana, Coromandel on a big surf day – I've been to lots of tropical beaches but none are as nice as this!

What do you like to do to relax?
It's not very relaxing but I enjoy training with the Beca Dragon Boat team, doing harbour swims and getting out on my mountain bike. For true relaxation, I go to the beach.



Send your feedback and suggestions for future issues to portsandcoastal@beca.com

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